REMARKS

Favorable reconsideration of this application is requested in view of the following remarks.

Non-elected claims 15-20 and 22-31 have been withdrawn. Non-elected claims 21 and 32-41 remain withdrawn. Withdrawn claims 15-41 should be reinstated if the generic claim is allowed.

Claim 1 has been amended to clarify that the light-emitting layer is a porous light-emitting body as supported by the specification at [0219] at pages 70-71 and Fig. 6 in addition to editorial revisions. Claim 5 and withdrawn claim 24 have been amended editorially.

The drawings are objected to under 37 CFR 1.83 (a). The dielectric layer (10) is included in the drawings, for example, in Figs. 1-5 and 22. In particular, $BaTiO_3$ is used as a main component of the dielectric layer (10) (see para. [0040] at page 14 and embodiment 9 in paras. [0137] at pages 43-44 and [0140] at pages 44 of the original specification and Fig. 22). $BaTiO_3$ mentioned as the dielectric material also is a well-known ferroelectric material (see a copy of Encyclopedia Britannica Online attached hereto). Therefore, the layer (10) in Fig. 22, which is the ferroelectric layer, illustrates the limitation of "a dielectric layer or a ferroelectric layer" in claims 3 and 4.

In addition, the first electrode (6) corresponds to the back side electrode (see para. [0038] at page 14). Thus, the back side electrode of claim 5 also is shown in the drawings such as in Figs. 1 and 22 as the electrode (6), which contacts the layer (10).

Accordingly, the drawings show every feature of the invention specified in the claims. This objection should be withdrawn.

Claims 1-5, 7-12, and 14 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully traverse this rejection.

In claim 1, the light-emitting layer is a porous light-emitting body that includes the phosphor. From the description in the specification, particularly "when the apparent porosity is in a range of not less than 10% to less than 100%, it is assumed that the phosphor particles are in approximate point contact so as to be adjacent three-dimensionally to each other", it is clear that the spaces formed between and around the phosphor particles (see para. [0050] at pages 16-17 and Fig. 6) can form a porous structure, for example. Accordingly, claim 1 is definite, and the rejection should be withdrawn.

Claims 1-5 and 7-12 have been rejected under 35 U.S.C. 102(e) as being anticipated by Murata et al. (U.S. Patent No. 6,611,099). Applicants respectfully traverse this rejection.

Murata discloses a plasma panel display apparatus ("PPD") using a plasma discharge (see coln. 1, lines 37-40), and that in the PPD, UV rays that are generated by a voltage between the substrates are used to cause a phosphor to emit light (see coln. 1, lines 20-24). Murata, however, fails to disclose a display apparatus that uses the porous light-emitting body, in which primary electrons collide with phosphor particles and cause surface discharge in the porous light-emitting body to generate the secondary electrons and UV rays, both of which excite a luminescence center of the porous light-emitting body and generate light as claim 1 requires. Thus, the light-emitting element of claim 1 is distinguished from the PPD of the reference.

In addition, Murata fails to disclose that the light-emitting layer is a porous light-emitting body, and that the porous light-emitting body has porosity of between 10% and less than 100% as claim 10 requires. By having the particular porosity, hopping of the electrons occurs in the light-emitting layer (see para. [0025] at page 11 of the specification). However, if the porosity is less than 10 %, i.e., it is too dense, the generation of the surface discharge by the primary electrons is inhibited, and if the porosity is 100 %, luminous efficiency of the light-emitting layer decreases and air discharge occurs therein (see paras. [0025] at page 11 and [0050] at pages 16-17 of the specification). Thus, claim 10 is also distinguished from the reference.

Accordingly, claims 1-5 and 7-12 are distinguished from Murata, and this rejection should be withdrawn.

Claims 1-5 and 7-12 have been rejected under 35 U.S.C. 102(e) as being anticipated by Ueno et al. (U.S. Patent Application Publication No. 2005/0174037). Applicants respectfully traverse this rejection.

Ueno discloses a light-emitting element including a porous light-emitting body, which contains an inorganic phosphor particle, and electrodes (see abstract) and further discloses that voltage applied to the light-emitting element causes emission of UV light, which optically pumps the particles and causes emission of visible light (see para. [0061] at page 4). Ueno, however, fails to disclose an apparatus in which the primary electrons that are generated through gas breakdown cause the surface discharge and emission of the secondary electrons and UV rays, both of which cause emission of light from the porous light-emitting body as claim 1 requires. Thus, claim 1 is distinguished from Ueno, and this rejection should be withdrawn.

Claims 14 has been rejected under 35 U.S.C. 103 (a) as being unpatentable over Murata et al. (U.S. Patent No. 6,611,099) or Ueno et al. (U.S. Patent Application Publication No. 2005/0174037). Applicants respectfully traverse this rejection.

Claim 14, which depends from claim 3 and ultimately depends from claim 1, is distinguished from Murata or Ueno for at least the same reasons as discussed for claim 1 above. Accordingly, this rejection should be withdrawn.

Application No. 10/572761
Response to the Office Action dated November 21, 2008

In view of the above, Applicants request reconsideration of the application in the form of a Notice of Allowance.

Respectfully submitted,

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DPM/my/ad

ferroelectricity

physics

Main

property of certain nonconducting crystals, or dielectrics, that exhibit spontaneous electric polarization (separation of the centre of positive and negative electric charge, making one side of the crystal positive and the opposite side negative) that can be reversed in direction by the application of an appropriate electric field. Ferroelectricity is named by analogy with **ferromagnetism**, which occurs in such materials as iron. Iron atoms, being tiny magnets, spontaneously align themselves in clusters called ferromagnetic domains, which in turn can be oriented predominantly in a given direction by the application of an external magnetic field.

Ferroelectric materials—for example, barium titanate ($BaTiO_3$) and Rochelle salt—are composed of crystals in which the structural units are tiny **electric dipoles**; that is, in each unit the centres of positive charge and of negative charge are slightly separated. In some crystals these electric dipoles spontaneously line up in clusters called domains, and in ferroelectric crystals the domains can be oriented predominantly in one direction by a strong external electric field. Reversing the external field reverses the predominant orientation of the ferroelectric domains, though the switching to a new direction lags somewhat behind the change in the external electric field. This lag of electric polarization behind the applied electric field is ferroelectric hysteresis, named by analogy with ferromagnetic hysteresis.

Ferroelectricity ceases in a given material above a characteristic temperature, called its Curie temperature, because the heat agitates the dipoles sufficiently to overcome the forces that spontaneously align them.